

COURSE OUTLINE FOR TRAINING LICENSED PRACTICAL NURSES IN BLOOD COMPONENT ADMINISTRATION

*Approved by the New York State Department of Health
and the New York State Education Department*

PURPOSE

The purpose of this course outline is to provide a guide for organizations in developing and implementing a standardized curriculum for the training of LPNs in their role in blood component administration.

PREREQUISITE

Completion of an LPN IV therapy training program as required by the New York State Board for Nursing.

COURSE OBJECTIVES

Upon completion of training, the LPN will be able to:

1. List common indications for therapeutic blood component administration.
2. List the patient data to be obtained prior to blood component administration.
3. Identify the steps for preparation of supplies and equipment for blood component administration.
4. Describe the patient identification process to be verified at the patient's side with the RN prior to blood component administration.
5. Demonstrate clinical competency in safe blood component administration.
6. Identify the actions to take in the event of a transfusion reaction.
7. Document blood component administration according to institutional policies and procedures.

ESSENTIAL COURSE CONTENT

I. Applicable Requirements and Guidance

- Guideline: *The Differentiated Scope of Practice of Licensed Practical Nurses (LPNs) and Registered Professional Nurses (RNs)*
- Guideline: *The Practice of IV Therapy by Licensed Practical Nurses in Acute Care Settings*
- Education Law, Article 139, Section 6902.2
- Regent's Rules, Sections 29.1(b)(9), 29.1(b)(10), and 29.2
- DOH regulations, Subpart 58-2
- DOH *Guidelines for Monitoring Transfusion Recipients*
- Institutional policies and procedures pertaining to blood administration, including the roles of LPNs and RNs and infection control practices

II. Types of Blood Components

- Content, how they are prepared, physiologic action/therapeutic effects
- Packed red blood cells, including autologous and directed donations
- Platelets, including whole blood-derived concentrates and apheresis platelets
- Fresh frozen plasma and other types of plasma
- Other components used at the facility (e.g., cryoprecipitate, granulocytes)

- Components that undergo special processing, such as irradiated, leukoreduced, CMV-safe, sickle hemoglobin negative components, and HLA-matched or crossmatched platelets

III. Indications for Blood Component Administration

- Packed red blood cells – including chronic anemias, acute blood loss due to trauma or surgery
- Platelets – including thrombocytopenia due to disease or chemotherapy, platelet dysfunction, platelet consumption, with bleeding; prior to invasive procedure or prophylactic; not indicated in ITP/TTP absent life-threatening bleeding
- Fresh frozen plasma and other types of plasma – coagulation factor deficits other than Factor VIII; not indicated for volume replacement

IV. Blood Groups and Compatibility

- ABO groups (O, A, B, and AB)
- Rh (Rh-positive, Rh-negative; influence of latter on perinatal care)
- Other blood groups (blood may be labeled negative for other antigens)
- ABO compatibility of cellular components
- ABO compatibility of plasma components

V. Information Needed Prior to Blood Administration

- Prescription by authorized provider
- Order(s) for posttransfusion laboratory tests to assess efficacy
- Review pertinent pretransfusion and historical laboratory values (blood group & Rh) and patient status (hemoglobin/hematocrit for red blood cells, platelet count for platelets, PT/APTT for FFP; presence/absence of bleeding, planned invasive procedure, if any)
- Vital signs, baseline and historical
- Patient history pertinent to transfusion, prior transfusions (blood group & Rh) and any reactions; prior transfusion-related pregnancy complications, such as infant with hemolytic disease of the newborn or bleeding at birth

VI. Administration Techniques, According to Institutional Policies and Procedures

To include:

- Confirmation of prescribed order with RN or physician*
- Confirmation of current patient consent
- Verification of blood group & Rh and transfusion history
- Patient preparation, including patient education
- Obtaining pre-administration baseline patient data, including vital signs
- Preparation of equipment and supplies, in accordance with infection control standards
- Assessment of patency and size of peripheral venous access by RN
- Procedures for obtaining blood components
- Administration of pre-transfusion medications if indicated
- Patient identification process, including comparison of the blood component label with other information and identifying recipient and blood component at the patient's side, with RN or physician*
- Infusion rates and duration
- Documentation of patient data during blood component administration
- Reporting changes in patient data/vital signs to RN or physician*, if outside established limits, following comparison with patient baseline and established parameters

- Required documentation
- Disposition of supplies and equipment
- Reporting patient data at the time of transfusion completion to RN or physician*

VII. Transfusion Reactions

- A. Immediate reactions, including acute hemolytic transfusion reactions, bacterial contamination, transfusion-related acute lung injury (TRALI), febrile non-hemolytic transfusion reactions, allergic reactions, urticarial reactions, and volume overload
 - Signs and symptoms
 - LPN responsibilities, if signs/symptoms are outside of established parameters (discontinue administration of blood and alert RN and/or physician*)
 - Transfusion reaction protocol (including clerical check, blood and urine specimens, and retention of the component bag[s]) and LPN role
 - Interventions/therapy, as ordered by a physician*
- B. Delayed reactions, including delayed hemolytic transfusion reactions, posttransfusion purpura
 - Signs and symptoms
 - LPN responsibilities (alert RN and/or physician*)
 - Interventions/therapy, as ordered by a physician*

*Physician, or other person authorized by law to order transfusions

CLINICAL EXPERIENCE

Following completion of didactic instruction and supervised clinical experiences, each LPN must undergo clinical competency validation. This process includes direct observation of successful blood component administration tasks for each of the types of components for which the LPN will be authorized to administer, using the particular equipment employed at the institution. Until such competency is established and documented, LPNs may administer blood components only under direct, line-of-sight supervision of an RN.

An ongoing competency maintenance program, at a minimum, should include annual clinical competency validation of blood product administration, as defined by institutional policies and procedures.

MODIFICATIONS

When an institution modifies the LPN role and responsibilities for administering blood components, RNs must complete an appropriate educational program to ensure that blood administration tasks are delegated to LPNs according to the current standards of practice and institutional policies and procedures.

When blood administration procedures are modified, LPNs performing blood administration tasks must undergo appropriate, documented training in the modified procedures, in accordance with revised standard operating procedures and a revised curriculum.